

Panamera

Special



# Sportiness at Your Command

The suspension of the Porsche Panamera is the basic ingredient in a formidable high-performance cocktail. The recipe ensures synergistic interaction of mechanical and electronic components to provide the kind of driving experience that the enthusiast driver wants. When these capabilities are fully activated, this comfortable Gran Turismo can provide a breathtaking ride on the wild side.

By  
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Photos and illustrations by  
Porsche

Very firm or nice and gentle? The PASM adaptive suspension management and the innovative adaptive air suspension substantially extend the adjustment range of the suspension

The double-wishbone front axle with adaptive air suspension

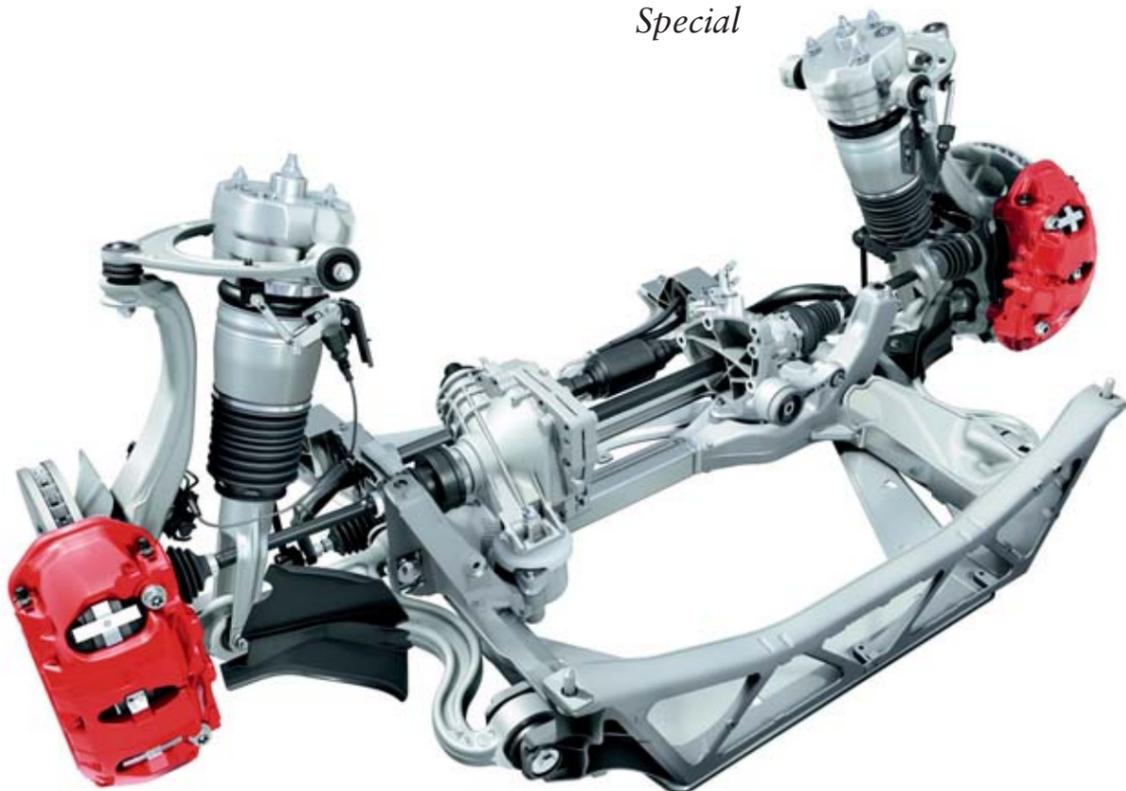
Porsche test track in Weissach

**For the record:**  
At 2.9 kilometers (1.8 miles) long, the track in Weissach is where driving gets serious; this is where pros like to show off what the Panamera and its suspension can do—and it's an unforgettable experience



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Lightweight marvel: The front suspension is made mostly of aluminum

**When the engineers talk about the adaptability of the Panamera, they spread their arms wide like an eagle spreads its wings. It's their way of saying "Best in Class."**



**Everyone drives** their car as best they can. Some are better drivers than others. In Weissach, there are several people whose job includes convincing journalists of the advantages of new models by taking them for a spin around a Porsche test track—an experience one doesn't forget. Because on a track where the driver doesn't have to worry about deer crossings or oncoming traffic, these demo laps are like learning to dance to hard rock at a lonely hearts ball: one strives to make contact and glean some facts while the band is taking one's breath away.

Here in the Panamera Turbo, everything feels a whole lot more comfortable than one might expect from prior experiences in Weissach. It's so cozy in here that one fails to pay proper attention to the driver's explicit warning: "I'm going to do some serious driving now," he says very calmly. "If you like, I can let you get out first."

What?! Get out of the car? Why? There's no problem! What does he mean anyway, "doing some serious driving"? Instead of giving an explanation, the driver touches an inconspicuous button on the center console: Sport Plus. "Don't get startled now," he says. But it's too late. In fractions of a second, the Gran Turismo has transformed itself. It seems to go into a crouch, to bite into the pavement. The engine speaks up, and the eight cylinders are making a formidable sound. The Panamera accelerates and keeps on accelerating. The Porsche double-clutch transmission (PDK) suddenly performs its magic and transmits the power of 500 hp with all the zeal one would expect from a gearbox that has grown up on the world's racetracks: swiftly, smoothly, and boldly, right up to the limit. The track grows narrow, the straights grow short, and the curves—no way are we going to make it around those

curves. But somehow we make it. The legs are stiffening, the hands are gripping the leather seat (the body is pressed into the seat anyway), and the driver says, "Now here comes the slalom course." Gee, thanks a lot!

The locomotion near the absolute limit continues only a few minutes. Both the driver and the car seem to be having great fun "doing some serious driving" and are accomplishing feats that would never be possible in ordinary road traffic. The minutes feel more like hours. And for the first time, the driver looks a little concerned and asks, "You okay now?" While the stomach is still getting back to normal, the Panamera just grins—as if it wants to say, "Bet you didn't know there's a colossal difference between sporty driving and seriously sporty driving." Okay, okay! I get the idea.

The ability of the extremely sporty and luxurious Gran Turismo to transform itself into a wild animal makes for fascinating "Aha!" experiences. Making this possible was one of the greatest challenges for the Weissach engineers. And, as always, the drive for innovation together with abundant experience has produced an impressive result. Ever since Porsche developed Porsche Active Suspension Management (PASM), the Porsche driver has been able to change the vehicle at will in several stages to select a distinctly sporty or an extremely sporty mode. During



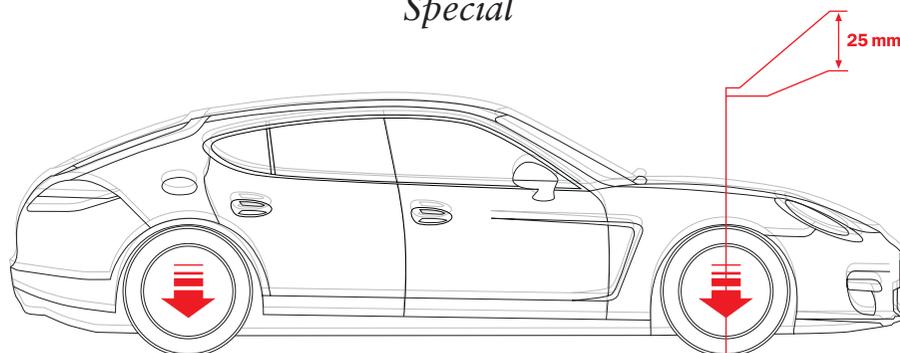
*"I believe that the sports car is actually a trailblazer for new developments. This was true in the past and will remain true in the future."*

every evolutionary stage this system has been further refined. The range of attributes that become more muscular when the Sport or Sport Plus button is pushed has been extended far beyond the suspension. Electronic systems now play an important part, effecting changes in the engine management and raising the gearshift points in the PDK transmission. Such capabilities are already familiar from the Boxster, the Cayman, the 911, and the Cayenne. In the Panamera, this development reaches a new high that's exceptional for such a luxury vehicle. While an impressive engine is taken for granted in the top tier, the range of driver-selectable performance levels is usually much more limited than the selection of comfortable seat positions. In the Panamera, Porsche has maximized personal comfort while also embedding a great deal of sportiness that's ready for action at the push of a button. ▶



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**At the touch of a button, all systems are shifted to maximum sportiness, and the vehicle is lowered by one inch**

When the engineers talk about the adaptability of the Panamera, they spread their arms wide like an eagle spreads its wings. It's their way of saying "Best in Class."

There is no single attribute that accounts for this capability. It's the total design concept of this vehicle that creates such a high level of comfort combined with driving properties that are typical of Porsche. The fuel consumption, too, is admirable for a car of such high performance capability. In the Panamera, that has a lot to do with lightweight construction that begins in the engine, continues in the body, and ranges all the way to the high-tech insulation sheeting for the windows. Key elements in the design include direct fuel injection, the advantages of the Porsche PDK transmission, and several electronic support features. At the core of this array of fun and excitement boosters is the suspension, which receives commands, processes them, and applies them directly to the road. The tires also have received considerable attention from the engineers. Special high-performance tires with a ten-percent reduction in rolling resistance were developed for the Panamera. The result met the same objectives as all the other tasks in the Panamera development: outstanding performance, superb personal comfort, and high fuel efficiency. The suspension is in the same high class, combining high rigidity with low weight. The lightweight axles consist mainly of hollow aluminum castings and aluminum extensions. Only the steering gear rack is made of steel. Porsche braking technology—which has always been unimpeachable when it comes to braking distances, durability, reliability, and wear—has been adapted to the requirements of this exclusive Gran Turismo. A reduction in the unsprung mass enhances driving comfort, while minimized residual braking torque contributes to a reduction in fuel consumption.

The three models offered initially—the Panamera S, the 4S, and the Turbo—include PASM as standard equipment. The 4S and the Turbo are additionally equipped with Porsche Traction Management (PTM) with active all-wheel drive. An electronically controlled multidisk clutch for the front axle further augments traction, driving dynamics, and handling agility. A new feature in the luxury category is adaptive air suspension, which is standard equipment in the Turbo. It provides a two-step adjustment in the

spring rate, which substantially widens the range of driving modes from very comfortable to extremely sporty. The ground clearance of the vehicle can be increased by up to 20 millimeters (0.8-inch). For high speeds, the Panamera can also be lowered by 25 millimeters (one inch). This push-button change is completed in about four seconds.

An option available for all models is Porsche Dynamic Chassis Control (PDCC), which also includes an electronically controlled rear axle differential. This stabilizer bar control system substantially reduces body roll in turns, increases agility, and ensures optimal steering and load change behavior at any speed. The rear axle differential further enhances traction of the rear wheels. As a result, PDCC makes driving more comfortable while also shifting the limits of driving dynamics toward even sportier handling.

Another important ingredient of the high-performance cocktail is the PDK transmission, which is standard equipment in the 4S and the Turbo. This feature really puts extra control in the driver's hands: all it takes to transform the Panamera from an exceptionally comfortable Gran Turismo to a sports car is a push of the correct buttons on the center console. All Panamera models are equipped with the Sport button. It selects the engine settings, the throttle response curve, the suspension characteristics, and the PDK shifting characteristics. In addition, the automatic Start-Stop function—which turns off the engine during stoplights—is deactivated. The Porsche Panamera is the first car in the luxury performance class to introduce this fuel-conserving function as standard equipment in all PDK-equipped models.

The Sport Chrono Package is available as an option for drivers who want to experience an even more powerful transformation. At the touch of a button, all systems are shifted to maximum sportiness, and the vehicle is lowered on its suspension by 25 millimeters (one inch). In conjunction with PDK, Launch Control is activated; the transmission control boosts the gearshift points and changes over to even sportier shifting. In the Panamera Turbo, the Sport Chrono Package additionally comes with an overboost function, which temporarily raises the maximum torque by ten percent. Between 3,000 and 4,000 rpm, that delivers a formidable 770 Nm (568 lb.-ft.).

That's how the Panamera turns "serious driving" into seriously fun driving. But if you want to check out the full performance range of the Gran Turismo, you'd be prudent to head for a track that's closed to public traffic. And a few words of advice for your passengers: Don't be startled at first. ◀